19 January 1961

MEMORANDUM FOR: Chief, TISD

FROM: Chief, TISD/TIB

SUBJECT: Development of a readout system for the Stereocomparators [redacted] STATINTL

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[redacted] has requested additional information from us concerning the readout system for the new stereocomparators. (reference: memo of 26 October 1960 concerning the desirability to have a compatible readout system for the new [redacted] Comparators.) STATINTL

In response to their request for information, the data on the attached enclosure was compiled for a preliminary conference with [redacted] STATINTL STAT STATINTL

On 18 January 1961 [redacted] to discuss the readout system. Due to the lack of information on the [redacted] accumulators and [redacted] technical specifications, no conclusions could be reached as to the exact choice of instrumentation for the readout. STATINTL STATINTL STATINTL

It appears that the best way to select the desired readout equipment would be for our technical representatives to meet with the [redacted] engineers to discuss the feasibility of the various products available to us. Then a selection of equipment could be made that would best suit our needs with a minimum of effort or modification. STATINTL

[redacted] STATINTL

Chief, TISD/TIB

PIC [redacted]

copy to contract file

STATINTL

Approved For Release 2002/07/10 : CIA-RDP78B04747A000900050067-5

Conditions Required for Compatibility of [redacted] Comparator. STAT

1. High Speed Tape Punch - preferably the Telecomputing Punch.
2. Plug in Matrix Board - either in the accumulator or tape punch.
3. Suitable typewriter - [redacted] STAT
4. Provision for punched error codes (i.e., d, e, f). Note: this is dependent upon flexibility of [redacted] Units. STATINTL
5. Switch selected output modes - normally included in punch.

In addition, the following conditions would be desirable.

1. Tape punch to be rack mounted with the accumulator.
2. Additional momentary contact switches on control panel for error codes.

Additional information would also be helpful on the flexibility of the output format.

Primary questions to be resolved on the readout of the [redacted] STATINTL stereocomparator.

A. Determine output pulse voltage [redacted] can be supplied in. STATINTL This must be coordinated with voltages required by punch and typer.

1. Telecomputing tape punch available in approximately 6 different voltages.

2. The punch is available in 3 different models.
   a. External Matrix Board
   b. Wired Matrix Board
   c. Plug in Matrix Board

Models b and c would also trigger the typewriters with no additional control from the accumulator.

3. Any of the above punches available in either cabinets or rack mounts.

B. Determine how many solenoids are necessary in the typer, and the voltages required.

Type writers available:

a. [redacted] 13" carriage; 15, 80 volt solenoids STATINTL
f.o.b. [redacted] 4 additional solenoids available at extra STATINTL
cost.

b. Telecomputing 12E 16" carriage, 15 solenoids voltage unknown but would match the punches.
c. Straight Flexowriter less punch and reader.

C. Determine if the matrix board is to be in the accumulator or tape punch.

EXTRACT OF LETTER RECEIVED

STATINTL

STATINTL

[redacted]

Teletype machine with a 12" carriage & 12 solenoids
" " " " " " but with 44 "

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STAT The 12 solenoid machine supplies numbers plus a choice of 2 characters, the 44 solenoid machine supplies characters and numbers. Should supplementary characters be required such as "remote shift" or "remote ribbon shift" about Lstg30 should be added to the above prices.

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[redacted]

STAT Furthermore it should be clear that we should receive the machine and execute the necessary modifications without indicating the exact date of shipment until we shall know what the client exactly desires. To this end we are enclosing herewith a questionnaire which we kindly ask you to return to us duly filled.

STATINTL

To the above indicated prices [redacted] will have to add a percentage to cover the commercial expenses, modifications, control and allignment in accordance with our own circuits which will further increase the cost by approxi-

STAT mately [redacted]

STATINTL

As to the possibility of using a tape punching machine we beg to confirm that it will be impossible for us to obtain said machine [redacted] and therefore, should it be necessary, it will be advisable that it should be sent to us directly [redacted]

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Explanatory Notes on Printout Selector Data Sheet.

This data sheet is intended to give a complete specification for a printout selector unit and it is important that all relevant sections should be completed in full. There are five sections dealing with the printout or punchout machine. These cover respectively, electric typewriters, digital printers, tape reperforators, teleprinters and card punches. Usually only one of these five sections will apply to any particular equipment. Whether the printout device issupplied [redacted] by the Customer, the appropriate section should be completed. Wherever possible the solenoid voltage should be made 24 as this often enables existing power supplies to be utilised.

In the case of devices involving punched tape, the binary decimal code applying to a particular computer must be given. The most important piece of information is that concerning printout sequence; this applies in all cases. In addition to specifying the order in which the digital information from X and Y channels is to be printed out, all miscelaneous characters must be included. It is usual to separate groups of digits by one or more space characters and a typical termination would involve the symbols, carriage return, line feed, in the case of punched tape. It may also be desirable for some purposes to include letter shift and figure shift characters if the information on the tape is subsequently to be used for producing a printed page on a teleprinter.

The last section of the data sheet deals with miscellaneous information. It is necessary to know the maximum total solenoid current required by the printout device so that this can be allowed for. In some cases, power for the solemoids is provided by the Customer or by the printout device. Alternatively it has to be provided from the [redacted] equipment and this must be stated.

The printout cycle is normally initiated by a push button except where an on the fly printout is involved and in this case the start signal would be in the form of an electrical pulse. A runout or tape feed button can be prpvided in addition to that normally fitted to tape punches and a common zero reset button can also be provided which will zero channels simultaneously in addition to the individual zero reset buttons fitted to the counter units. It is usually convenient to have these buttons in the region of the measuring machine rather than associated with the counter cabinet. These buttons can be provided on the end of flying leads suitable for mounting on the Customer's machine. The length of lead required should be stated. [redacted]

In the case of static printout, the counting circuitry may be left live or inhibited during the printout cycle. The decision whether or not to inhibit depends on whether vibration is liable to be present and whether for the particular application it is more serious to lose an occasional digit or to have an occasional printout containing a serious error due to movement of the counter part way through the sequence. Where a buffer store is provided, it is not necessary to inhibit the counter and in this case, it should be stated whether printout is required static or on the fly. Where a buffer store is used, a fault detector can be fitted to the printout selector unit which will inhibit the printout if more than one digit in any decade is in the "ON" state. This is not normally fitted to printouts simultaneously due to a fault condition, the operator will be aware of this by visual observation of the counter display.

/without buffer store since if more than one digit in a decade is "ON"/

./.

Some printout selectors are supplied with an assembly of manual buttons or decade switches for automatically adding serial numbers or other additional information to the printout cycle. Where these are supplied, it is necessary to know the location of the panel which, in some cases, is built in to the measuring machine. Cable lengths from selector unit to printout device and from selector unit to manual panel must be specified. The cabinet to be used is normally decided [redacted] depending on the complexity of the equipment.

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PRINTOUT SELECTOR DATA SHEET

Customer .?.....

Order No..?.....

Typewriter make and type [redacted] Output Writer 12" Carriage..... STAT

Motor voltage .?..... Solenoid voltage .48V.....

Typeface .....?..... Keyboard .?.....

Sequence .....?.....

12 of 44 solenoid ? Remote Ribbon Shift? Remote Shift?

Printer make and type .....

Motor voltage ..... Solenoid voltage .....

Sequence .....

Tape reperforator make and type .....

Motor voltage ..... Solenoid voltage .....

Code ..... 5,7, or 8 wires .....

Sequence .....

Teleprinter make and type .....

2,5,7,8 or 10 wires..... Reperforator .....

Motor voltage ..... Solenoid voltage .....

Code ..... Keyboard .....

Sequence .....

Card punch make and type .....

Read in device type .....

Motor voltage ..... Solenoid voltage .....

Sequence .....

Solenoid Total Current .....

Source of solenoid power .....

Printout start signal ..... Location .....

Runout button ..... Location .....

Common zero reset ..... Location .....

Inhibit ..... On the Fly .....

Fault detector .....

Manual button assy. .....

Manual switch assy. .....

Location of manual panel .....

Selector to printout cable length .....

Selector to manual panel cable length .....

Cabinet specification .....

Remarks .....